

SECRET

02057

NPIC/TDS-50/67
27 April 1967

MEMORANDUM FOR: Director, National Photographic Interpretation Center

SUBJECT: Request for Approval of the Digitized Measuring Light
Table Project with [redacted] for
[redacted] from FY 1967 Funding

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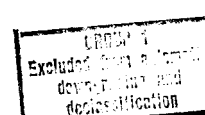
1. The Digitized Measuring Light Table project is a 90-day development effort by [redacted]. Its purpose is to ascertain the feasibility of providing photo interpreters with a means of direct communication with a computer in order to obtain measurements and record targets' film coordinates.

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2. Two important, but normally unrelated, functions of the photographic interpretation process are measuring film images and recording the film location of targets. The measurements referred to here are not those ultra-precise ones made by a photogrammetrist, but those which the interpreter himself usually makes, as in the routine identification of a target. However, even these measurements require considerable calculation because of the complex geometry involved. Recording film coordinates, on the other hand, is quite a simple operation, which usually consists of placing a transparent grid overlay on the film and noting the coordinates. However, the coordinates are processed by several people before they are finally stored permanently on magnetic tape, and each step in this procedure increases the likelihood of error.

3. Photo interpreters now use several methods to obtain measurements. These range from on-the-spot measurement and computation with tube magnifiers and slide rules to the use of a centrally located chip comparator which is connected directly to a computer. The first of these techniques is imprecise, and the second is inconvenient. It is the purpose of this development to provide the interpreter with a system much more convenient, rapid, and efficient than the second of the above techniques, and much more precise than the first. This will be accomplished by establishing a direct link between his light table and a central computer.

Declass Review by NGA.



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4. The system to be developed under this project will consist of four parts: "reading heads" attached to light tables, which will enable the interpreter to indicate which coordinates he wishes to record and which distances he wishes to measure; a console to convert these readings into binary language acceptable to the computer; a computer; and a computer program. The computer and program are already on hand at NPIC, and the "reading heads" for attachment to the light tables are available commercially. This project is to develop the necessary console so that the proposed system can be tested and evaluated. If the concept proves workable, sets of reading heads and consoles can be placed throughout the photo interpreters' working areas at a fraction of the cost which would be required for larger and more complex instruments such as chip comparators. Part of the test and evaluation of this pilot model will consist of determining the savings in time and money which could be achieved by general use of this equipment.

5. It is recommended that approval be granted to contract with [] at a funding level of [] for a three-month effort.

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/s/

[]

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Colonel, USAF

Assistant for Technical Development, NPIC

APPROVE

[]

47 APR 1967 ✓

Date

ARTHUR C. LUNDAHL

Director

National Photographic Interpretation Center

Attachments:

1. Catalog Form
2. [] Proposal

Distribution:

- Original - NPIC/SS/LB (After approval) (with atts. 1 & 2)
1 - NPIC/TDS/DS (with att. 1)
2 - NPIC/A/TD (with atts. 1 only)

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R & D CATALOG FORM		DATE
1. PROJECT TITLE/CODE NAME Digitized Measuring Light Table		2. SHORT PROJECT DESCRIPTION This device will allow a modified light table to be connected on-line with the in-house computer.
3. CONTRACTOR NAME [REDACTED]		4. LOCATION OF CONTRACTOR [REDACTED]
5. CLASS OF CONTRACTOR Manufacturer		6. TYPE OF CONTRACT CPFF
7. FUNDS FY 19 \$ FY 1967 [REDACTED] FY 19 \$		8. REQUISITION NO. 10. EFFECTIVE CONTRACT DATE (Begin - end) June 1967 - October 1967
		9. BUDGET PROJECT NO. NP-V-5-02057
		11. SECURITY CLASS. AA. - Confidential T. - Unclassified W. - Unclassified
12. RESPONSIBLE DIRECTORATE/OFFICE/PROJECT OFFICER TELEPHONE EXTENSION DDI/NPIC/TDS/DS [REDACTED]		
13. REQUIREMENT/AUTHORITY Operational components require a simplified, accurate measuring system and a quick indexing input station.		
14. TYPE OF WORK TO BE DONE Design and Fabrication		
15. CATEGORIES OF EFFORT		
MAJOR CATEGORY Viewing Systems		SUB-CATEGORIES Photogrammetry Photo Interpretation Reporting Techniques
16. END ITEM OR SERVICES FROM THIS CONTRACT/IMPROVEMENT OVER CURRENT SYSTEM, EQUIPMENT, ETC. The results of this contract will be an interface unit which will connect a "Dig" measuring system with the central, Univac 494 computer.		
17. SUPPORTING OR RELATED CONTRACTS (Agency & Other)/COORDINATION The project is unique and styled to match the NPIC computer and computer program. There is no situation outside NPIC which would require modification like this as a consequence, coordination outside NPIC was deemed unnecessary.		
18. DESCRIPTION OF INTELLIGENCE REQUIREMENT AND DETAILED TECHNICAL DESCRIPTION OF PROJECT (Continue on additional page if required) This project is the key to a pilot operational unit which will demonstrate the feasibility of a general use, on-line P.I. mensuration station. This station will allow the photo interpreter to make relatively precise measurements, input the coordinates of targets to the computer, and make plots of target areas, all without cutting up the roll of film or removing the film from his general viewing light table.		
19. APPROVED BY AND DATE		
OFFICE	DEPUTY DIRECTOR	DDC1